UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,619	02/08/2002	Robert Tracy Elms	01-EDP-299	2288

7590 11/04/2003

Martin J. Moran
Cutler-Hammer Products
Technology & Quality Center
170 Industry Drive, RIDC Park West
Pittsburgh, PA 15275

EXAMINER	
DEB, ANJAN K	

ART UNIT	PAPER NUMBER
2858	

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/071,619	ELMS, ROBERT TRACY	
	Examiner	Art Unit	
	Anjan K Deb	2858	

-- Th MAILING DATE f this communication appears on th cover she t with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 17-19* is/are rejected.

7)☒ Claim(s) *10-16,20-21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2/8/02* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maier et al. (US 5,345,180).

Re claim 1, Maier et al. discloses a tester 1 for verifying the integrity of wiring insulation in an electrical circuit 5, comprising an alternating current voltage source (pulse generator, 10,11) having a first and second output terminal leads having line lead wire connectable to line conductor P in electrical circuit 5, a neutral lead wire connectable to neutral conductor N as shown in Fig. 1 in electrical circuit 5, a first switch 2 connected to voltage source output terminal, and an ammeter (current transformer) connected in series with voltage source and circuit 5.

Maier et al. did not expressly disclose a ground lead wire connectable to a ground conductor of electrical circuit and a second switch.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Maier et al. by adding a ground connection and a second switch for detecting a leakage current to ground for testing wiring insulation with respect to ground.

3. Claims 1-9, 17-19 are rejected under 35 U.S C. 103(a) as being unpatentable over Benesh et al. (US 5,514,964).

Re claim 1, Benesh et al. discloses a tester (Fig. 1(A-C), Fig. 3A) for verifying the integrity of wiring insulation in an electrical circuit L1, L2 (Fig. 1A), comprising an alternating current voltage source V(test), having a first and second output terminal leads having line lead wire connectable to conductor L1 and ground lead wire connectable to ground 4 in electrical circuit, first 73 and second 84 switch, and ammeter (Indicator 90) connected in series with voltage source shown in Fig. 3A (column 4 lines 2-68).

Benesh et al. did not expressly disclose neutral lead wire connectable to neutral conductor.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Benesh et al. by adding neutral lead wire connectable to neutral conductor for detecting a leakage current in neutral for testing wiring insulation with respect to neutral.

Re claims 2-4, Benesh et al. discloses a voltage generator (column 4 lines 20-31) and transformer 64 (Fig. 3A) but did not expressly disclose transformer steps up a house voltage to approximately 500 volts, a test voltage substantially above the house voltage, but below a voltage rating of the wiring insulation.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Benesh et al. by adding a step up transformer for generating a test voltage of sufficient strength (voltage level) as required for generating a test current for insulation testing of circuit.

Re claims 5-6, Benesh et al. discloses test circuit comprising a transformer secondary winding, ammeter, first and second switch, is current limited by resistance R1 having threshold current set for 5 mA (column 8 lines 43-47).

Re claim 7, Benesh et al. discloses light emitting diode (indicator 90 (Fig. 3A)) which indicates when a test is in process (column 5 lines 54-58)(see LED column 9 lines 30-35).

Re claims 8-9, Benesh et al. discloses switching and control circuit 136 (Fig. 4) for turning off a test (column 7 lines 10-15).

Re claims 17-19, Benesh et al. discloses (Fig. 3A) method of verifying the integrity of wiring insulation in an electrical circuit disconnected from a load 74, wherein the wiring includes line and neutral electrical conductors, comprising the steps of isolating 62 the electrical circuit from a main power supply 20, placing preselected voltage across the line and neutral electrical conductors of the wiring, and monitoring the leakage current flowing through the wiring to identify a predetermine leakage current indicative of failure of the wiring insulation.

Benesh et al. did not expressly disclose applying test voltage substantially larger than voltage rating of a main power supply, but below a voltage rating of the wiring.

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Benesh et al. by adding step up transformer for generating a test voltage of sufficient strength (voltage level) as required for generating a test current for insulation testing of circuit.

Re Claim 18, Benesh et al. discloses limiting leakage current to 5 mA by setting threshold current for 5 mA (column 8 lines 43-47).

Allowable Subject Matter

4. Claims 10-16, 20-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 10-16 are allowable for the inclusion of second tester circuit comprising a pulse generator, primary winding of step down transformer connected to the pulse generator, and a secondary winding of the step down transformer connected between the neutral lead wire and the ground lead wire.

Claims 20-21 are allowable for the claimed sequence of steps including placing a pulsed current source having a voltage substantially less than the voltage of the main power supply across the neutral and ground conductors of the wiring.

Pertinent Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Janke et al. (US 5,448,491) discloses apparatus and method of testing wiring insulation in an electrical circuit comprising applying a test voltage to the circuit and measuring a leakage current to ground.

Tamechika et al. (US 5,712,572) discloses tester for testing wiring insulation in electrical distribution circuit comprising a pulse generator (261,262) for applying pulse voltage to the circuit by measurement switch 252 and monitoring current by a current detector 254 and determining wiring insulation condition by insulation judging unit 253 based on detected current (Fig. 2).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Anjan K. Deb whose telephone number is (703) 305-5219. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le, can be reached at (703)-308-0750.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone numbers are (703)-308-0956 and (703)-305-4900.

Anjan K. Deb
Patent Examiner
Art Unit: 2858
10/31/03

Tel: 703-305-5219
Fax : 703-746-4466
E-mail : anjan.deb@uspto.gov